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09/954,625	09/17/2001	William T. Turner	12017-26/NEC	7554

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EXAMINER

WARREN, DAVID S

ART UNIT	PAPER NUMBER
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2837

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/954,625
Filing Date: September 17, 2001
Appellant(s): TURNER, WILLIAM T.

Jan P. Weir
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed February 28, 2005.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief contains a statement that there are no related appeals and interferences known to appellant or the appellant's agent of record.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

This appeal involves claims 24 - 40.

Claims 1 – 23 have been canceled.

(4) *Status of Amendments After Final*

No amendment after final has been filed.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 24 - 40 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claims 24 – 27, 29 – 33, 35, and 36 rejected under 35 U.S.C. 103. This rejection set forth in prior Office Action (April 26, 2004) is repeated below:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 24 – 27, 29 – 33, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (3,657,461) in view of Kinman (5,834,999).

Regarding claim 24, Freeman discloses a humbucking pickup (col. 2, lines 72 – 75) having two coils (26, 27) separated by a substantially planar ferromagnetic plate (20, col. 2, lines 67 – 71). Freeman discloses a single magnetic pole piece (15) that is “disposed at least partially within both the first wire coil and the second wire coil.”

Freeman does not disclose a “plurality of magnetic pole pieces” disposed within the wire coils. Kinman discloses both a single magnetic pole piece disposed between two coils (fig. 6) and multiple pole pieces disposed within two coils (fig. 1). It would have been obvious to one of ordinary skill in the art to modify the teachings of Freeman with those of Kinman to obtain a two coil pickup having a ferromagnetic plate between coils and having multiple pole pieces. The motivation for making this combination is that Kinman

shows (in fig. 6 and fig. 1) that both configurations are used in two-coil systems, wherein the coils are separated by a ferromagnetic plate. One of ordinary skill in the art would certainly consider the teachings of the equivalency between multiple or single pole pieces when considering the benefits as taught by Freeman. Regarding claim 25, both Freeman and Kinman show plates that separate the north and south magnetic field lines (fig. 1 of Kinman, fig. 3 of Freeman). Regarding claim 26, Kinman shows the use of elongated pole pieces (39), both Kinman and Freeman show ferromagnetic material "substantially perpendicular" with the magnets (figs. 1 and 3, respectively). Regarding claim 27, see Freeman figs. 3 – 5. Regarding claim 29, both Freeman and Kinman show a first coil disposed above a second coil (figs. 3 and 1, respectively). Regarding claims 30, Freeman discloses oppositely wound coils (col. 1, lines 60 – 63; col. 2, lines 44 – 48). Regarding claim 31 – 33, Freeman shows a ferromagnetic plate that does not extend upward or downward (figs. 3 – 5). The examiner has already shown that one of ordinary skill would find it obvious to include multiple pole pieces into the pickup of Freeman (see the discussion *supra* for appropriate motivation). Regarding claims 35 and 36, Freeman discloses the claimed invention except for the dimensions of thickness for the ferromagnetic plate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a plate of at least 0.1 inches, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 233.) *In re Woodruff*, 919 F. 2d 1575 (Fed. Cir. 1990) requires the applicant to set forth reasons that "show that the claimed range achieves unexpected

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results relative to the prior art.” The examiner does not believe that applicant’s discussion (see applicant’s specification, the paragraph bridging pages 7 and 8) of plate thickness shows “unexpected results” over the prior art. (It is also noted that the applicant did not refute this assertion in the arguments.)

3. Claims 28 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman and Kinman in further view of Blucher et al. (5,811,710). The teachings of Freeman have been discussed above pertaining to independent claim 24. Regarding claims 28 and 34, Blucher discloses the use of a two-coil pickup having a ferromagnetic separator wherein both coils are wound around bobbins (col. 3, line 44). Blucher further discloses the use of side plates for concentrating the magnetic field lines from the coils (see discussion below that addresses applicant’s comments regarding this interpretation). It would have been obvious to one of ordinary skill in the art to combine the teachings of Freeman, Kinman and Blucher to obtain a pickup having a flat ferromagnetic plate separating top and bottom coils, with plural pole pieces, and wound on bobbins. The motivation for making the combination with Blucher is that winding on bobbins is well-known for providing support to flexible wire windings.

4. Claims 37 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman in view of Blucher. Regarding claim 37, Blucher discloses a first wire coil (21), a first bobbin (2) about which the first coil is wound, a second wire coil (31), a second bobbin (3) about which the second wire coil is disposed, a ferromagnetic plate disposed

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between the first and second wire coil, and wherein the pickup coils are configured to create a humbucking effect (col. 1, line 6). Blucher does not disclose the use of a planar ferromagnetic plate in a substantially neutral location. Freeman discloses a planar ferromagnetic plate (20) disposed in a magnetically neutral position between an upper and lower wire coil. It would have been obvious to one of ordinary skill in the art to combine the teachings of Freeman with those of Blucher to obtain a two-coil pickup wherein the coils are wound on bobbins and separated by a planar ferromagnetic material. The motivation for making this combination is that bobbins are notoriously old implements for winding and provide a stable structure to house and support the windings. Regarding claim 38, all limitations are discussed supra except the guitar having a body and the pickup disposed on the body. This is taught by Freeman (fig. 1). Regarding claim 39, the method is inherent in the resultant apparatus taught by the combination of Freeman and Blucher. Regarding claim 40, all limitations are discussed supra except "converting vibrations of strings of a musical instrument into electrical signals" and "causing at least one string to vibrate." This is taught by Freeman (col. 2, lines 62 – 67).

(11) Response to Argument

Issue A: The Appellant argues that in the rejection of independent claim 24, the Office Action ignores the feature directed to "a ferromagnetic plate disposed between a pair of coils at a substantially magnetically neutral location." However, Appellant's specification defines "substantially magnetically neutral location" (see Specification

page 21, paragraph [0044]) as “[t]here is a substantially magnetically neutral zone substantially midway between the north pole of each magnet and the south pole thereof.” However the Office Action makes numerous references to figs. 3 – 5 (of Freeman) which clearly show placing a ferromagnetic plate “substantially midway between the north pole...and south pole.” Indeed, attention to fig. 3 clearly shows ferromagnetic divider plate (20) “substantially midway” between poles. The Appellant also argues that the Office Action fails to “cite any patent in rejecting claim 24 that suggests positioning a ferromagnetic plate between a pair of coils at a substantially magnetically neutral location.” The Office Action clearly states (page 2, lines 3 – 5) “Freeman discloses a humbucking pickup...having two coil (26, 27) separated by a substantially planar ferromagnetic plate (20).”

Issue B: Again the Appellants assert that “Freeman is silent as to positioning a ferromagnetic plate at a substantially magnetically neutral location between a pair of coils.” As stated supra, the Examiner does not concur. Freeman clearly discloses placing a ferromagnetic plate at a substantially magnetically neutral location between a pair of coils (as defined by Appellant – see Specification page 21) - see Freeman’s figs. 3 and 5.

Issue C: As above, the Appellants argue that Freeman “is...silent as to positioning a ferromagnetic plate between coils at a magnetically neutral position. In addition, Freeman is also silent as to providing a ferromagnetic plate that is substantially planar over an entire surface thereof.” As stated supra, the Appellant has defined


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"substantially magnetically neutral position" to be a "zone substantially midway between the north pole of each magnet and the south pole thereof" (see Specification page 21).

As stated supra, Freeman's fig. 3, clearly shows a ferromagnetic plate located substantially between the north and south pole as well as shows that the plate is planar (also see fig. 5).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



David Warren
May 10, 2005

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